

## **REMARKS**

By this amendment, Claims 1 through 20 have been cancelled and new Claims 21 through 41 have been presented. New Claim 21 corresponds to original Claim 2, written in independent form. Claims 22 and 23 correspond to original Claims 3 and 4, respectively. Claims 24 and 25 correspond to original Claim 7, with Claim 24 directed to a alkylenedioxythiophene and Claim 25 directed to a mixture of alkylenedioxythiophenes. Claims 26 and 27 correspond to original Claims 5 and 6, respectively, written in independent form. Claims 28 and 29 correspond to original Claim 8, with the limitations of original Claim 2 included. Claim 28 is directed to the polymerization of a alkylenedioxythiophene and Claim 29 is directed to the polymerization of a mixture of alkylenedioxythiophenes. Claim 30 corresponds to original Claim 9, written in independent form. Claims 31, 32, 33, 34, and 35 correspond to original Claims 10 through 14, respectively. Claim 36 corresponds to original Claim 17. Claims 37, 38, 39, 40 and 41 correspond to original Claims 19, 15, 16, 18 and 20, respectively. No new matter has been added.

Claims 10, 14, 16, 18 and 20 were objected to as being in improper form. By the amendments presented herein, it is respectfully submitted that the objection is now moot. Reconsideration is respectfully requested.

Claims 1 and 8 were rejected under 35 U.S.C.112, paragraph 1. Claim 1 has been cancelled. Claim 8 (now Claims 28 and 29) includes the limitations of original Claim 2. The rejection should now be moot and reconsideration is respectfully requested.

Claims 3, 7 through 9, 11 through 13, 15, 17, 19 and 20 were rejected for a variety of reasons under 35 U.S.C.112, paragraph 2. Applicants believe that all these rejections have been overcome by the amendments presented herein. Specifically the Examiner has raised the following issues:

i) In Claim 3, the Examiner questioned the nature of the terminal group if n represented 2. Applicants do not fully understand the Examiner's comments. n

represents the functionality of M. In the formula (I), the alkylenedioxythiophene claimed can have from 1 to 8 of the groups shown within the bracket.

i) In Claim 7, the Examiner indicated that the claim was vague since Claim 2 was claimed as a compound and not a mixture. As noted above, Claim 7 has now been presented as two separate Claims (see Claims 24 and 25).

iii) In Claim 8, the "step" of preparing the compound is missing and since the claim included "mixture" language. As noted above, Claims 28 and 29 correspond to original Claim 8, with the limitations of original Claim 2 included. Claim 28 directed to the polymerization of a alkylenedioxythiophene and Claim 29 directed to the polymerization of a mixture of alkylenedioxythiophenes. The preparation step (i.e., polymerizing) is included in new Claims 28 and 29.

iv) The Examiner indicated that Claim 9 was directed to a polythiophene while Claim 2 (which was referred to in Claim 9) was a alkylenedioxythiophene. Claim 30 (which corresponds to original Claim 9) does not refer to Claim 2 and has been written in independent form as suggested by the Examiner.

v) The Examiner indicated that the terms "cations" and "anions" in Claims 11 and 12 (corresponding to new Claims 32 and 33, respectively) did not have antecedent basis. First, Applicants note that the term "cation" (or "cations") does not appear in either claim. Claim 32 specifies that the polythiophenes are "cationically and electrically conductive and contain bound anions as counterions to balance the positive charge." Claim 33 specifies that the counterions (referring to the counterions of Claim 32) are polyanions. Reconsideration is requested.

vi) The Examiner indicated that the polythiophene of Claim 15 (corresponding to new Claim 38) is vague because "the formula (I) has repeating units 1-8 (the value of n)." Applicants do not fully understand the Examiner's comments. n represents the functionality of M. In the formula (I), the alkylenedioxythiophene claimed can have from 1 to 8 of the groups shown within the bracket. As claimed, the compounds of formula (I) are polymerized to form a

polymer having recurring units. n has nothing to do with the number of recurring units.

vii) The Examiner rejected Claims 13, 17 and 19 as being dependent upon a rejected claim (Claim 9). Since the various rejections have been overcome, it is believed that this rejection is now moot,

Reconsideration of the claims under 35 U.S.C.112, paragraph 2, is respectfully requested.

Claims 1 through 4, 7 through 9, 13, 15, 17 and 19 were rejected under 35 U.S.C.102 as being anticipated by the Kros et al reference. Applicants respectfully submit that the Kros et al reference does not disclose the presently claimed invention. The Kros et al reference discloses a substituted 3,4-ethylenedioxythiophene having an unsubstituted benzyl group and the polymer produced therefrom. It is well known that an unsubstituted benzyl group has no mesogenous properties. The presently claimed invention requires the presence of mesogenic group. Clearly the reference does not describe the present invention.

Claims 1 through 3, 7 through 9, 13, 15 and 17 were rejected under 35 U.S.C.103 as being unpatentable over the Krishnamoorthy et al reference. The Krishnamoorthy et al reference discloses compounds (both monomeric and polymeric) that have been specifically disclaimed in the presently claimed invention (e.g., the last lines of Claim 21). The reference is completely silent about any mesogenous properties of the compounds described therein and any advantageous effect on conductivity which such mesogenous property might cause. The reference simply does not suggest the presently claimed invention.

Claims 5 and 6 were objected to as being dependent upon a rejected claim. The Examiner indicated that Claims 5 and 6 would be allowable if rewritten in independent form. Claims 5 and 6 have been rewritten as new Claims 26 and 27.

In view of the amendments and remarks presented herein, it is submitted that this application is in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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